Boston

25 November 1968

SUMMARY REPORT ON EXPERIMENTAL LIGHTING DEMONSTRATION
PUBLIC GARDEN OCTOBER 9 - OCTOBER 27

Our study is primarily concerned with the development of performance standards, the application of which should increase the probability of creating environments to support the needs of the people who use the city. Our initial proposals for the performance requirements for lighting are described in the preliminary goal statement (The Public Lighting of Cities, 16 February 1968, enclosed). The light and sound experience that operated in Boston during October, 1968, was an experimental test of some of these requirements.

The Public Garden is a vital part of the city's open space system that currently supports a great deal of daytime usage but offers little attraction or comfort at night. It is dark, empty of people and activity, and "feels" unsafe. Our experiment was intended to assess the potential of a new kind of environmental design that would utilize the form elements of the Garden itself in a way that strongly expressed the urban character of the place. Our hypothesis was that the pond could be designed to become an attracting element at night and that a continually changing light and sound environment would involve people in experiencing the park and cause them to better interact visually and audially with the outdoor environment, giving them new ways of seeing the park and new ways of hearing the sounds of the city. Consequently, a light and sound experience was designed and evaluated in an attempt to assess the reaction of people using the park during the experiment. Such experimentation is vital to the development of hospitable environments desperately needed to keep our cities functioning for the amenity of city users.

The experiment designed and installed by Yale Research Associates in the Arts satisfied our major lighting objective--that of expressing light quality and its effect on the environment, as distinct from the appearance of fixtures or light intensity

alone. The design was based on sequenced xenon strobe flashes below the water that were played in concert with sound programs emanating from poly-planar speakers on the surface of the pond. The light flashes reflected on particles suspended in the water, creating a corona of light while not disturbing the reflecting plane of the surface. The concerts were controlled by a console and sound synthesizer which permitted continuous programming of light and sound sequences synchronized in many combinations.

The process of implementation involved a wide range of people, agencies, and organizations ranging from public agencies such as Parks and Police for encouragement and use of staff and facilities, through the many industrial organizations that contributed most of the equipment, to educational institutions--Yale and M.I.T. for computer time and equipment, associations such as the Yale Arts Association and Boston Architectural Center for fund raising--and private individuals and organizations who contributed operating monies. We feel that public/private involvement is vital if we are to produce meaningful improvements in city design and the light and sound experiment proved that such cooperation for the public good is possible. We strongly recommend as a general policy that city agencies should expand and strengthen their catalytic potential. Contrary to the pessimists we have found that most people, agencies, business organizations, associations are not only capable of being involved in physical improvements to the environment, they are very willing to cooperate. But they must be asked and this is where a progressive city agency can do much to start the process that could alter the shape of the city.

SUMMARY EVALUATION

In addition to being an experiment in environment design, the light and sound experience provided an opportunity to experiment with evaluation techniques. The main objective in all of the planned experiments is to assess user reaction in order to increase our ability to define performance standards for environment design.

Accordingly, we planned the evaluation to compare such things as what quantity of people used the Garden and their spatial disposition before the experiment and during it; what kind of people were involved by age, sex, and social grouping; what time they spent in the Garden, and whether they came once or many times, and how they came to know of the experiment; their reaction, whether positive or negative; all supplemented by free interviews designed to cover the specific reaction of a sample of people in the Garden. A brief summary follows.

As expected, the experiment considerably increased the number of people using the park at night, and the distribution analysis indicates a general dispersal of people around the pond showing that the experiment did serve to attract people and did cause them to wander around the Garden in a free manner. Nor was there any vandalism or unpleasantness during the twenty nights of the experiment.

In a way it seems strange to comment on such a natural usage of a public park, but the point is that it is no longer "natural" for people to wander through city parks at night. One of the prime values of the experiment is that it emphasizes the real need to design public places to not only provide a "safe" nighttime environment but to encourage people to use these environments naturally again.

The level of ambient light in the Garden was not noticeably increased by the experiment, and this indicates that the solution to increasing the natural usage of parks at night is not necessarily through flood lighting in an attempt to reproduce daytime levels--a better solution is to use light as a design medium. In this

experiment xenon light, water and its mirror surface, trees, electronic sounds, city sounds, and the regular lights on Boylston Street all interacted to produce a heightened awareness of one's experience in using the Public Garden at night. Nor did the design adversely affect daytime usage since the light fixtures were invisible and the speakers were unobtrusive--the whole design was integral with the pond and light and sound became manipulable media per se.

The composition of the audience during the experiment presents no surprises. There were considerably more males (69.0%) than females, no doubt reflecting insecurity among women at night outdoors. The dominant age group was between 20 and 35 (54.4%). The teen group also had significant representation (30.4%). The surrounding residential areas of Back Bay and Beacon Hill are largely populated by apartment dwellers (of these age groups), and the small percentage of children and adults over 35 also reflects the residential pattern of suburban families who seldom use the city at night.

The "respectable" middle-class dominated (57.8%) and the "non-respectable" middle-class identified by long hair and "hippie" appearance were also significant (36.2%) while lower class people were generally absent (only 6%). This again represents the residential pattern of the immediately surrounding areas.

The implication is that this sample population represents the dominant available user groups of the Public Garden, and that we should design the environment with these dominant groups in mind if we want to increase their continued usage of the place. It might also have been the nature of the experiment that attracted these young users. It would be useful to compare these results with the composition of the population viewing the Christmas lights on the Common--the design of which appears to be specifically aimed at young children and their attendant family groups.

The time spent in the Garden during the experiment shows a similar pattern of interest by the young and middle-class, less interest among the 35 and over group and very little interest from lower-class interviewees. The "hippie" or "non-respectable

middle-class sample group was unanimous in their intention to stay, often through the whole performance. Somewhat less than half of the respondents visited the Garden at least twice and most of those came back because they liked the experiment. Most of the respondents (62%) were first attracted to the experiment as they walked by or through the park on other purposes and very few came through publicity. The average time respondents spent in the Garden during the experiment was 45 minutes. This indicates that there is a large potential group of "natural" users of the park if it was permanently designed as an involving environment.

Most people had a favorable response (66.6%). A closer examination of attitudes showed only that there are some signs of negative attitudes from the lower-class respondents (however, the number of lower-class respondents was too small to give a definitive indication). There is considerable agreement, however, between those with positive attitudes and those with negative attitudes that the experiment was interesting.

From an analysis of the free interviews, we can conclude that the experiment was generally liked, that to most people it was an interesting innovation stimulating to the imagination, aesthetically involving, and appropriately located. Many people were confused about the purpose of the experiment--that is understandable since environmental design experiments of this nature are very rare. An overwhelming majority (94.5%) of respondents considered that similar light and sound experiments should be conducted every year in the Public Garden. Many people found the repetitive programming boring after a time, however, and there was a general preference for "nature" and an antipathy towards "technology."

The preceding comments on the evaluation are preliminary---a full summary will be prepared for the final report but we can already conclude that it was a very worthwhile experiment and we recommend similar and expanded experiments of this nature in the public environment.